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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
GOLOBOY, JAMES C	

ART UNIT	PAPER NUMBER
1714	

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/822,057	TYNIK, ROBERT J.	
	Examiner	Art Unit	
	James Goloboy	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18 and 20-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18 and 20-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/9/2004 & 9/2/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-18 and 20-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. According to applicant's own admission in the first paragraph of page 3 of the specification, the compounds containing tellurium and selenium are merely "envisioned", and have not actually been produced.

3. Claims 1-18 and 20-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. See the explanation in paragraph 2 above.

4. Claims 14-18, 20, and 24-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant claims on pages 3-5 of the specification to have isolated a ditungstate compound from a non-aqueous solution through the reaction of tungstic acid with a base, but does not provide any supporting data. Errington (J. Chem. Soc. Chem. Commun., 1993, p. 649-651), describes attempts at preparing alkylammonium ditungstate compounds. Attention is drawn to Scheme 1 on page 651, where the reaction of tungstic acid or higher nuclearity tungstates with bases is shown to form a compound **1**, which according to the data discussed in the second column of page 650 has a nuclearity of 7n, rather than 2. Attention is also drawn to the second column of page 651, where Errington states that even in non-aqueous solutions, the $[W_2O_7]^{2-}$ anion is unstable with respect to higher-nuclearity species. In the absence of evidence to the contrary, it is the examiner's position that applicant has not isolated a ditungstate compound, but rather a higher nuclearity tungstate, in accordance with the teachings of Errington.

5. Claims 14-18, 20, and 29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in

the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. See the explanation in paragraph 4 above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-2, 4-10, 14-18 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Roch (U.S. Pat. No. 3,489,775) in view of Freedman (*J. Am. Chem. Soc.*, 1959, 81, p. 3834-3839).

In column 4 lines 11-20 de Roch discloses the reaction of a tungstic acid (lines 17-18) and a nitrogenous base. In column 3 lines 45-50 de Roch further discloses that the nitrogenous base may be an alkyl amine, including dihexylamine (line 48), which meets the limitations of the amines recited in Claims 1, 4-6, 21, and 22. While de Roch characterizes the products of the reaction as alkylamine salts ("diethylamine

paramolybdate", for example), it is the examiner's position that the products are actually alkylammonium salts, as the molybdates or tungstates are anions and require a cation to balance the charge.

While de Roch does not specifically disclose he use of di-tridecylamine and di-n-octylamine, as recited in Claims 7 and 8, de Roch does disclose the use of several dialkylamines (diethylamine and dihexylamine), and states in column 3 line 37-40 that the bases advantageously contain 1-50 carbon atoms per molecule, which is similar to the range recited in Claim 4 (1 to 40 carbons per alkyl group, leading to 2 to 80 carbon atoms per dialkylamine), from which Claims 7 and 8 depend. Given that de Roch specifically discloses C_2 and C_6 alkyl groups, and teaches that a wider range of alkyl amines is suitable for use as the nitrogenous base, the use of di-tridecylamine and di-n-octylamine, containing C_{13} and C_8 alkyl groups respectively, would also have been obvious. Similarly, given the wide range of bases taught as suitable, it would have been obvious to use a mixture of bases, as recited in Claim 10.

Finally, de Roch discloses that a wide variety of polytungstate and molybdate products, containing from 2 to 7 metal atoms, can be produced from the reaction of the acid and the nitrogenous base. Notably, in column 3 line 63 and column 4 line 6, de Roch discloses dimolybdate products. Based on these teachings, it would have been obvious to one of ordinary skill in the art to react dialkylamine bases, as discussed above, with tungstic acid in such a ratio as to produce the analogous ditungstates.

The differences between de Roch and the currently presented Claims are:

i) While de Roch discloses the use of a tungstic acid (column 3 lines 15-17 and column 4 lines 17-18), de Roch does not disclose a specific tungstic acid. This relates to Claims 1-2, 4-6, 7-10, and 21-23.

ii) de Roch does not provide a method for preparing the tungstic acid. This related to Claims 2 and 22.

With respect to i), Freedman, in an article entitled "The Tungstic Acids", discloses in the abstract $WO_4H_2 \cdot H_2O$ ($WO_3 \cdot 2H_2O$) as one of two tungstic acid species. Given the small size of the group, it would have been obvious to select $WO_4H_2 \cdot H_2O$ as the tungstic acid species for the reaction of de Roch.

With respect to ii), Freedman teaches on page 3835 paragraph C that the tungstic acid hydrate is prepared by reacting $NaWO_4 \cdot 2H_2O$ with an acid, HCl, as recited in Claims 2 and 22. It would have been obvious to one of ordinary skill in the art to prepare the tungstic acid hydrate by the method of Freedman in order to prepare large amounts of the acid, as taught by Freedman in paragraph C.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over de Roch in view of Freedman as applied to claims 1-2, 4-10, 14-18, and 20-23 above, and further in view of Krause (J. Am. Chem. Soc., 1925, p. 1689-1694).

The discussion of de Roch in view of Freedman in paragraph 8 above is incorporated here by reference. De Roch states in column 4 lines 11-14 that the metal acid hydrate and nitrogenous base may be reacted under the conditions described by Krause, but does not describe the actual conditions.

Krause, on pages 1690-1691, describes a process for reacting metal acids with amines involving mixing and refluxing.

10. Claims 11-13 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Roch in view of Freedman as applied to claims 1-2, 4-10, 14-18, and 20-23 above, and further in view of Kuwamoto (U.S. Pat. No. 4,626,367) and Papay (U.S. Pat. No. 5,652,201).

The discussion of de Roch in view of Freedman in paragraph 8 above is incorporated here by reference. De Roch in view of Freedman discloses the reaction product of a metal acid hydrate and an alkyl amine, but does not disclose a lubricating composition comprising such a product.

Kuwamoto, in column 4 lines 39-42, discloses molybdates and tungstates as standard corrosion inhibitors for a lubricating composition, as recited in Claim 11. While Kuwamoto specifically discloses water-soluble molybdates and tungstates in aqueous lubricants, it would have been obvious to one of ordinary skill to use the organic-soluble molybdates and tungstates of de Roch in a non-aqueous lubricant.

Papay, in the table in column 50 lines 45-55, discloses that the preferred concentration of a corrosion inhibitor in a lubricating oil is from 0.02 to 1% by weight, overlapping or encompassing the ranges recited in Claims 11-13.

Therefore, the use of the molybdates and tungstates of de Roch as corrosion inhibitors in a lubricating composition in the amounts taught by Papay meets the conditions of Claims 11-13. It would have been obvious to one of ordinary skill in the art

to use the tungstates and molybdates of de Roch in a lubricating composition, as Kuwamoto teaches that they are effective corrosion inhibitors.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is 571-272-2476. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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